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## (54) POLYMER ELECTROLYTE MEMBRANE AND PREPARATION THEREOF

## (57)Abstract:

PURPOSE: To obtain the subject membrane suitable for using as polymer solid electrolyte, having sufficient chemical stability by sulfonating the specified aromatic polyether ketone, isolating the obtained sulfonic acid to dissolve in an org. solvent, and transforming the soln. into a film.

CONSTITUTION: The membrane is prepared by sulfonating the aromatic polyether ketone of the formula (where Ar is phenylene ring having p- and/or m-bonds; Ar' is phenylene, naphthylene, biphenylene or the like; X, N and M are each 0 or 1; Y is 0-3; P is 1-4), converting at least 5% of the sulfo groups in the sulfonic acid into sulfonyl chloride groups, reacting the groups with an amine- contg. a crosslinkable substituent or a further functional group to convert 5-25% of the original sulfonic groups into sulfonamide groups, then hydrolyzing the unreacted sulfonyl chloride groups, isolating the obtained aromatic sulfonamide and dissolving in an org. solvent, processing the soln. to a film, and crosslinking the crosslinkable substituents in the prescribed film.

$$\left\{ \left( \frac{1}{2} \sum_{i \in \mathcal{A}} \frac{1}{2} \sum_{j \in \mathcal{A}} \frac$$

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